

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101



IN THE MATTER OF

ALUMINUM COMPANY OF AMERICA,
Riverdale, Iowa,

Respondent.

Docket No. 86-H-0009

Proceeding under Section 3013
of the Resource Conservation
and Recovery Act of 1976, as
amended, 42 U.S.C. §6934.

ORDER ON CONSENT

JURISDICTION

This Order on Consent is entered into by the Aluminum Company of America (ALCOA) and the United States Environmental Protection Agency (EPA), Region VII, the latter by virtue of the authority vested in the Administrator of EPA by Section 3013 of the Resource Conservation and Recovery Act of 1976, as amended (RCRA), 42 U.S.C. §6934, and delegated to the undersigned official of EPA by EPA Delegation No. 8-20, dated March 20, 1985. Notice of this Order has been given to the State of Iowa, Department of Water, Air and Waste Management. ALCOA denies that the surface impoundment, referred to in the Findings of Fact Section of this Order, is subject to the requirements of RCRA and the regulations promulgated thereunder. However, ALCOA hereby consents to the terms of this Order and EPA's jurisdiction over the surface impoundment and acknowledges that EPA has authority to enter into and enforce the terms of this Order.

FINDINGS OF FACT

1. ALCOA is the owner and operator of a facility commonly referred to as the ALCOA Davenport Works, located in Riverdale, Scott County, Iowa and more specifically in Sections 23, 24, 25, and 26 of Township 78N, Range 4E of the 5th principal meridian latitude $41^{\circ} 32'$ and longitude $90^{\circ} 27'$.

2. ALCOA is a Pennsylvania corporation qualified to do business in Iowa.

3. In 1956, ALCOA began utilization of an unlined waste oil surface impoundment at the Davenport Works primarily for the storage of oil wastes from manufacturing operations and in particular for oily sludge from an alum/lime oil waste treatment plant. At its greatest extent, the impoundment covered approximately 14 acres in area and varied from 8 to 20 feet in depth. By 1981, the surface impoundment had been reduced to an area of approximately two acres.

4. The surface impoundment was located approximately 150 to 200 feet from and northwest of the Mississippi River and is bounded on the south and west by a man-made dike with clay cores installed to bedrock as a flood protection measure. The area inside the dike around the impoundment consists of fill material overlying a sandy silt, which in turn overlays limestone bedrock. Depth to bedrock varies from 5 to 10 feet at the north end of the existing impoundment and from 15 to 20 feet at the south end.

5. From 1956 until 1979, ALCOA placed a variety of solid wastes, including oil and grease, solvents, pickling fluids, and paint coating wastes in the impoundment. Some of these wastes contained polychlorinated biphenyls (PCBs).

6. In 1979, ALCOA having discovered the fact that approximately 3.5 million gallons of waste oil in the surface impoundment contained PCBs in varying concentrations, voluntarily initiated a remedial program designed to ensure the PCB contaminated waste oil would be properly disposed of in a manner consistent with 40 C.F.R. Part 761.

7. Pursuant to the above-mentioned remedial program, ALCOA undertook the following actions:

(a) from August 2, 1980, through June 7, 1981, removed all pumpable waste oil and sludge from the surface impoundment and shipped said material to either Technical Services, Inc., of Atkinson, Illinois, or Chemical Waste Management, Inc., in Emelle, Alabama;

(b) subsequent to the removal of the pumpable waste oil and sludge, began a process of in-situ fixation whereby remaining unpumpable sludge in the surface impoundment was solidified with cement kiln dust for the purpose of stabilizing the contaminated sludge to prevent leaching of PCBs from said sludge; and

(c) in January 1981, retained a consulting firm to conduct an investigation and assessment regarding the potential

of groundwater contamination which may have resulted from the release of hazardous substances from the surface impoundment.

8. In February 1981, groundwater monitoring wells were installed around the periphery of the surface impoundment by ALCOA's consultant and, subsequently, groundwater samples were collected and analyzed. The location of the wells and the sample results are contained in a report entitled "First Annual Comprehensive Report on Groundwater at the ALCOA - Davenport Waste Disposal Site" (the Report), which was submitted by letter dated February 28, 1983, from George Pratt, ALCOA, to Morris Kay, EPA, Region VII.

9. The Report summarized the findings from the hydrogeologic investigation of the site and concluded that an estimated 15,300 gallons of groundwater (in both the shallow and bedrock aquifers) containing approximately 11.5 gallons of oil were being released per day from the site and that PCBs were present in both the oil and groundwater discharging from the site.

10. In February of 1984, ALCOA and EPA entered into an Order on Consent (Docket No. 84-F-004) pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. 9606(a), whereby ALCOA agreed to submit an initial remedial action plan (IRAP) designed to prevent the release of PCB-contaminated oils from the site.

ALCOA submitted the IRAP and EPA approved the IRAP, with conditions, by letter dated April 16, 1984.

11. In January, 1985 ALCOA completed installation of an oil interception and recovery trench. The trench was installed by ALCOA in compliance with the Consent Order referenced in paragraph 10 preceding. The trench was installed downgradient of the impoundment between the lagoon and the Mississippi River. Pursuant to that Consent Order, ALCOA continues to collect oil in the trench for offsite disposal or management. The impoundment was also capped with impermeable, compacted clay soil and was seeded to reduce the percolation of water through the impoundment. Measurement of fluid levels in monitoring wells up and downgradient of the trench indicates that the trench is effectively preventing any significant releases of PCB-contaminated oil from the closed and capped impoundment.

12. Neither the hydrogeologic investigation of the site by ALCOA, nor other investigations or sampling done by ALCOA or EPA, have sufficiently characterized either the contaminant levels in the shallow groundwater beneath the site or the actual or potential contamination of bedrock groundwater.

CONCLUSIONS OF LAW

13. ALCOA is a "person" as defined by Section 1004(15) of RCRA, 42 U.S.C. §6903(15).

14. The past practice of the discharging, depositing, dumping or placing of PCBs into the Davenport facility's surface

impoundment by ALCOA, as described heretofore, is disposal as defined by Section 1004(3) of RCRA, 42 U.S.C. §6903(3).

15. ALCOA denies the validity of the above Conclusions of Law.

DETERMINATION

16. EPA has determined that polychlorinated biphenyls are hazardous wastes as defined by Section 1004(5) of RCRA, 42 U.S.C. §6903(5). Furthermore, based upon the foregoing Findings of Fact and Conclusions of Law, the EPA has determined that both (1) the PCB contaminated waste and the oil present in the area of the former surface impoundment at the ALCOA-Davenport Works facility/site at which the said wastes had been disposed of and (2) the release and/or potential release of PCBs and oil into shallow groundwater or bedrock groundwater, may present a substantial hazard to human health or the environment. EPA has further determined that the actions specified in the following Order are reasonable and necessary to ascertain the nature and extent of such hazard, and that ALCOA is the person responsible for conducting the actions ordered therein.

17. ALCOA denies the validity of the above determinations.

ORDER

18. ALCOA and EPA agree, and ALCOA is HEREBY ORDERED AND DIRECTED to undertake the activities described in paragraphs 19 through 21 following pursuant to the schedules established

therein to further define the actual or threatened releases from the facility. If additional remedial and/or monitoring actions are subsequently determined to be required by EPA, this Order on Consent may be amended accordingly or additional Orders may be issued.

19. Within the time frames identified below in this paragraph, ALCOA shall submit to EPA a detailed Groundwater Monitoring Plan (the Plan). The Groundwater Monitoring Plan submitted shall contain schedules for the implementation of the various components listed below. The installation and operation of the groundwater monitoring network shall provide sufficient information to characterize the flow and chemical contamination of both the shallow and bedrock groundwater aquifers at the site. The shallow groundwater aquifer refers to the surficial alluvial deposits and fill materials saturated with water and above the bedrock. The bedrock aquifer refers to groundwater flowing through the bedrock, which would be beneath the shallow system. The Groundwater Monitoring Plan shall, at a minimum, address the guidelines specified in paragraph 19(a) and (b).

(a) Provide report on previous (Phase I) groundwater monitoring activities conducted by ALCOA for the closed waste oil lagoon. Specifically, ALCOA shall submit to EPA the following:

(1) raw data and ALCOA's consultant's report on the groundwater pump test;

(2) reports on collection of water samples from the bedrock groundwater monitoring wells and copies of analytical data on chemical analyses of bedrock groundwater samples collected from the site; and

(3) data on groundwater elevations measurements taken from onsite monitoring wells.

(b) Phase II of the Groundwater Monitoring Plan shall be prepared by ALCOA and shall be submitted to EPA within 90 days of the effective date of this Order. The Phase II Groundwater Monitoring Plan shall include a schedule for implementation and shall provide for sufficient bedrock groundwater monitoring wells to determine the extent of contamination, groundwater flow patterns, and the ultimate fate of any contaminated bedrock groundwater. Phase II shall also provide for the collection and analysis of shallow groundwater samples which are chemically representative of the shallow groundwater quality downgradient of the lagoon.

20. For the Phase II Groundwater Monitoring Plan, ALCOA shall submit the following information to EPA:

(a) Installation of Monitoring Wells -

- (1) locations of monitoring wells including background wells;
- (2) rationale for selection of well locations;
- (3) depth of wells and nesting of wells;
- (4) drilling methods to be used;

- (5) decontamination procedures;
- (6) screen and casing materials including screen slot size and length;
- (7) backfill materials;
- (8) methods and precautions to be used to prevent cross-contamination of aquifers such as sealing the casing between aquifers;
- (9) site survey and methods to establish well locations, and elevations of wells, ground, and groundwater; and
- (10) method/procedures to be used for proper closure of wells.

(b) Sampling and Water Level Measurements -

- (1) frequency of sample collection;
- (2) duration of the groundwater monitoring;
- (3) method for collecting water samples from the various aquifers;
- (4) method for measure water levels in wells and Mississippi River elevations in the vicinity of the facility; and
- (5) frequency for measuring water levels in wells and Mississippi River elevation in the vicinity of the facility;

(c) Status Reports -

- (1) a status report (or reports) shall be provided by ALCOA to EPA following installation of any additional

groundwater monitoring wells. Said report(s) shall include status of work completed, projection of upcoming work and discussion and/or resolution of problems or anomalies encountered and/or issues to be resolved;

(2) a schedule providing for the submission of regular, periodic reports to EPA which shall include analytical results, groundwater elevations and Mississippi River elevations in the vicinity of the facility;

(d) Interim Groundwater Assessment -

an interim groundwater assessment, conducted by ALCOA or by a qualified hydrogeologic consultant, shall be prepared upon completion of the activities defined in paragraph 20 and shall at a minimum address the hydrologic connection between the shallow and bedrock aquifer; and

(e) Final Groundwater Assessment -

a final groundwater assessment, conducted by ALCOA or by a qualified hydrogeologic consultant, shall be conducted after sufficient data, information and groundwater sample analyses have been obtained and reviewed and shall at a minimum address the following:

(1) levels of all PCBs, metals above background levels, and organic priority pollutants above limits of detection (except pesticides after the initial phase) present in the shallow and bedrock groundwater at the site;

(2) background levels of shallow and bedrock groundwater quality;

(3) the concentrations of chemical contamination present in shallow and bedrock groundwater leaving the site and the volumes of such contaminated shallow and bedrock groundwater; and

(4) the ultimate fate of receptors of shallow and bedrock groundwater discharged from the site.

SAMPLE ANALYSES AND SAMPLE MANAGEMENT

21. All sampling and analysis plans, that are submitted to EPA pursuant to the requirements of this Order, shall address the following:

(a) field sample management protocol, including chain-of-custody, transportation and storage of samples;

(b) laboratory sample management protocol, including storage of samples and chain-of-custody;

(c) chemical parameters for sample analyses and limits of detection;

(d) analytical procedures and methods; and

(e) laboratory quality control/quality assurance program.

EPA REVIEW

22. Following its receipt of any Plan, or any refinement or revision thereof, required to be submitted by ALCOA to EPA

pursuant to this Order on Consent, EPA shall review such Plan, refinement or revision thereof, and notify ALCOA in writing within 60 days of EPA's receipt of such Plan, refinement or revision thereof, of its approval or disapproval of the Plan, or any part or further refinement or revision thereof. In the event of any disapproval, EPA shall specify in detail both the deficiencies of the Plan and the reasons therefore. The Plan, or any part or further refinement or revision thereof, which is approved by EPA and performance of which is not contingent upon determining or proceeding with a disapproved part of the Plan shall, on the date of such approval, become final for purposes of this Order.

RESOLUTION OF DISPUTES

23. (a) As to any Plan or any part or further refinement or revision thereof, a notice of disapproval of which is given ALCOA by EPA as provided herein, ALCOA shall, within sixty (60) days of such notice either:

(1) modify and submit to EPA the said Plan or portion thereof as revised to eliminate the deficiencies specified by EPA, in which case the disputed Plan, or part or further refinement or revision thereof shall become final for purposes of this Order, upon written notification of EPA's approval; or

(2) confer with EPA in an attempt to achieve agreement on the disputed Plan or any part or further refinement

or revision thereof, in which case the period of sixty (60) days provided under Paragraph 23(a) of this Order may be extended by mutual written agreement between the parties. If agreement can be achieved by such conference, it will be memorialized in a joint memorandum between the parties and the disputed Plan, or any part or further refinement or revision thereof, shall become final for purposes of this Order on the effective date of such memorandum.

(b) If agreement concerning the disputed Plan, or any part or further refinement or revision thereof, cannot be achieved by procedures outlined in either paragraph 23(a)(1) or 23(a)(2) preceding, ALCOA shall implement all the provisions of the disputed Plan, or any part or further refinement or revision thereof, as required by EPA in accordance with any time schedules therein.

(c) None of the foregoing provisions shall prohibit either party from pursuing appropriate judicial or other remedies as provided by law on the disputed portions of the Plan. This Order is defined to be a final Order for enforcement purposes under Section 3013(e) of RCRA, 42 U.S.C. §6934(e).

PLAN IMPLEMENTATION

24. (a) Upon written approval of the Plan, or any part or further refinement or revision thereof, as originally

proposed or as amended, ALCOA shall implement the Plan in accordance with the approved terms and schedules therein.

(b) Within sixty (60) days of completion of all work specified in the Plan, ALCOA shall submit to EPA a full and accurate report regarding all activities required by paragraphs 19 through 21 and approved by EPA.

(c) ALCOA shall report and submit all findings, including copies of analytical results to EPA on a regular basis as specified in the Plan and approved by EPA.

MISCELLANEOUS

25. ALCOA agrees, for purposes of complying with the terms of this Order on Consent, to provide access to its facility to the employees, contractors, consultants, or other representatives of EPA at all reasonable times. Furthermore, ALCOA shall retain copies of all available charts, maps, letters, memoranda, invoices, shipping manifests or other records or documents concerning the subject matter of this Order and shall make said records available to EPA at all reasonable times, if requested by EPA.

26. Absent negligent or willful misconduct on the part of the United States or any agency thereof, neither the United States Government nor any agency thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions of ALCOA, its officers, directors, employees, agents, servants, receivers, trustees, successors, or assigns, or of any

person, including but not limited to firms, corporations, subsidiaries, contractors or consultants in carrying out activities pursuant to this Order, nor shall the U.S. Government or any agency thereof be held out as a party to any contract entered into by ALCOA in carrying out activities pursuant to this Order.

27. Upon request prior to sampling, ALCOA shall provide EPA with a split of all samples taken pursuant to this Order. Upon request prior to sampling, EPA shall provide ALCOA with a split of all samples taken by EPA at the site. Each party shall provide fourteen (14) days notice prior to sampling activities.

28. All actions undertaken pursuant to this Order by ALCOA or its duly authorized representatives shall be so done in accordance with all applicable federal, state and local statutes and regulations.

29. The provisions of this Order shall be binding on the employees, successors, and assigns of both parties.

30. ALCOA and EPA may at any time by mutual agreement modify this Order as necessary. Any such modification shall be in writing and signed and executed by representatives of each party.

31. Nothing contained in this Order shall be construed to prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, or from taking other legal action or equitable action it deems appropriate or necessary with respect to the ALCOA Davenport Works facility or from requiring future remedial or monitoring activities at the site.

32. The parties hereto have reviewed this Order on Consent and consent to the requirements set forth herein. The parties are desirous of resolving this matter without resort to litigation. Nothing in this Order is or shall be construed to be an admission by ALCOA or any past or present violations of law.

33. Three (3) copies of each Plan and at least one copy of monitoring reports, status reports and the final report for the initial remedial action shall be mailed to:

Mr. David V. Crawford
Waste Management Division
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

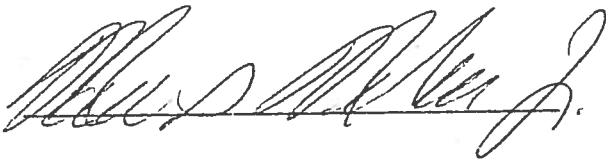
34. Whenever, under the terms of this Order on Consent, notice is required to be given, or a report, plan or other document is required to be forwarded by one party to another, it shall be directed to the individuals at the address specified below, unless those individuals or their successors give notice in writing to the other party of another individual designated to receive such communications:

Mr. David V. Crawford
Waste Management Division
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Mr. Marshall Sonksen
Staff Environmental Engineer
Aluminum Company of America
Davenport Works
Post Office Box 3567
Davenport, Iowa 52808

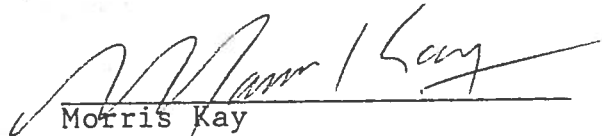
35. The provisions of this Order on Consent shall terminate upon ALCOA's receipt of written notice from EPA that all the requirements of this Order on Consent have been successfully completed.

36. The effective date of this Order on Consent shall be date last inscribed below and the time frames for work to be performed pursuant to this Order shall be based upon the said date.



Aluminum Company of America

July 31, 1986
Date



Morris Kay
Regional Administrator
U.S. EPA, Region VII

8-14-86
Date